UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,503	06/29/2001	Lawrence J. Ronk	TI-30890	9240

23494 7590 02/26/2007

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER	
PATEL, KANJIBHAI B	
ART UNIT	**PAPER NUMBER**
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
2 MONTHS	02/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/896,503
Filing Date: June 29, 2001
Appellant(s): RONK ET AL.

RONK ET AL.
For Appellant

SUPPLEMENTAL EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/29/06 appealing from the Office action mailed 5/17/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Tsuchikawa et al. (US 5,748,775).

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102 (b) as being anticipated by Tsuchikawa et al. (US 5,748,775).

For claim 1, Tsuchikawa et al. discloses a method of video object feature data generation (at least Figures 3-4, 6-7), comprising:

(a) extracting a first set of features (block 100 in Figures 3-4 stores captured image feature parameters, such as intensity values; 130 in Figure 6; column 5, lines 7-10) from a moving object detected (moving object extraction means 500 detects the object 520) in a sequence of images (column 5, lines 5-7; camera 001 is used to obtain a sequence of images as shown in at least Figure 3-4);

(b) extracting a sequences of grid blocks corresponding to motion of said object in said sequence of images (column 5, lines 18-52; moving object regain 120 is divided into a plurality of sub-regions a1, a2, a3, a4....ak representing a sequence of grid blocks as shown at least in Figures 4 and 6-7);

(c) storing said first set of features and said sequence of said grid blocks (column 5, lines 5-10; frame image memories 101, 102, etc. are used for storing feature parameters and grid blocks; see 100 in Figures 3-4 and 130 in Figure 6 providing storage).

For claim 2, Tsuchikawa et al. discloses the method, wherein:

(a) said extracting of step 9a) includes extracting features in every image in said sequence containing said object (column 7, lines 40-45; a sequential repetition for entered input images provides feature extraction for every image).

For claim 3, Tsuchikawa et al. discloses the method, further comprising:

(a) for each of said grid blocks of step (b) extracting features and associating said grid-block extracted features with said grid block sequence (column 5, lines 5-62).

For claim 4, Tsuchikawa et al. disclose the method, wherein:

(a) said first set of extracted features of step (a) includes a color histogram (column 7, lines 46-59; 263 and 264 in Figure 7 provide color histogram).

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Claims 5-7 are allowed.

For claim 5, prior art on record fails to teach or suggest, alone or in combination, a method of searching for a video object, comprising, among other things, ranking said feature vectors of said database according to the results of step c and finding video objects by an association of video objects with said feature vectors of said database together with the results of step d.

(10) Response to Argument

Appellant argues Tsuchikawa extracts (detects) a moving object in a sequence of images by updating the background and then subtracting it from the images to find the object. In contrast, claim 1 presumes an already-detected moving object in a sequence of images and is directed at storing features plus the path of motion for the object.

In response, the examiner notes claim 1 does not recite "an already-detected moving object in a sequence of images and is directed at storing features plus the path of motion for the object". The examiner cannot make presumption of what features the Appellant presumes are in the claims.

Claim 1 recites:

A method of video object feature data generation, comprising:

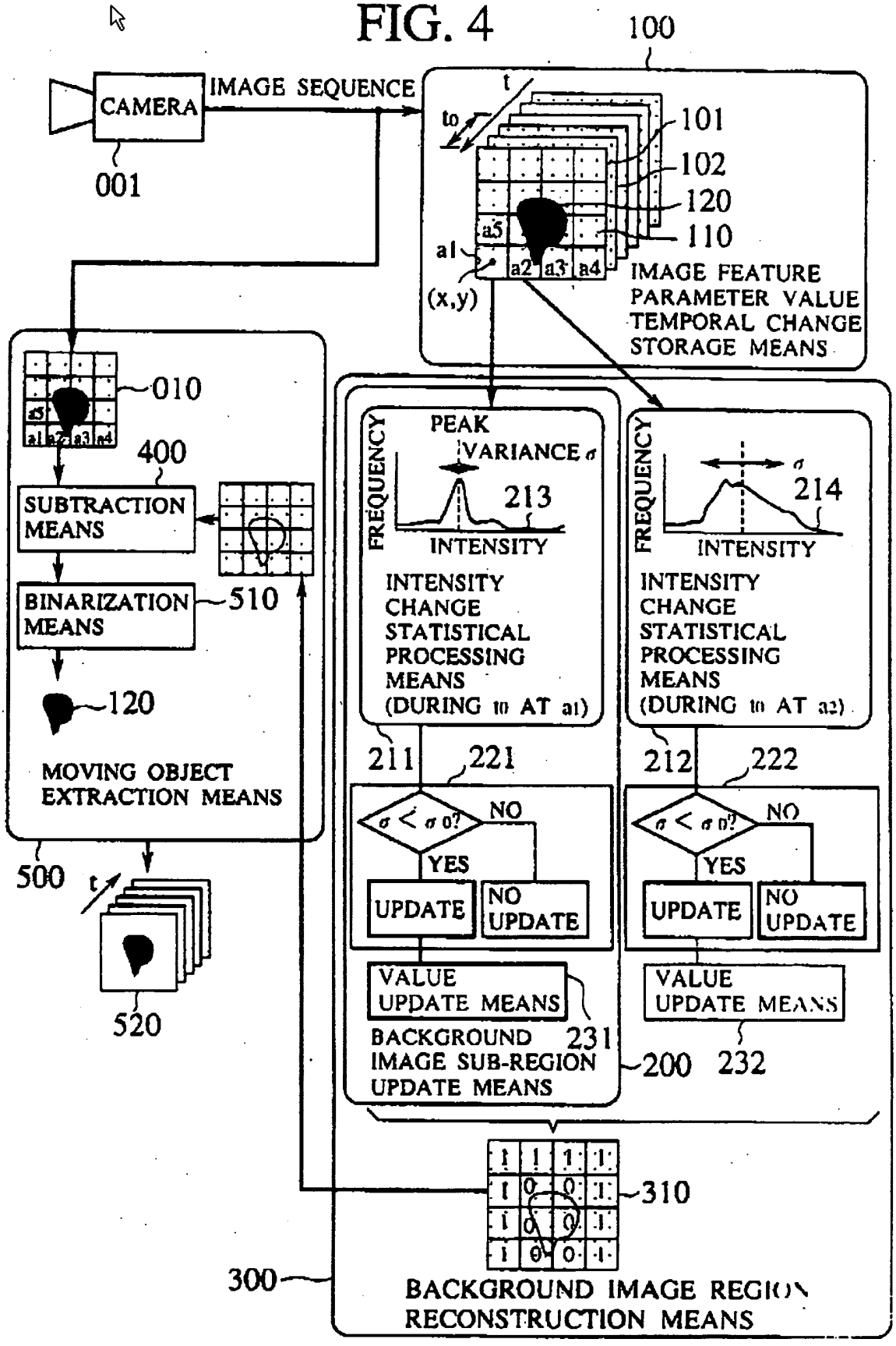
(a) extracting a first set of features from a moving object detected in a sequence of images;

(b) extracting a sequence of grid blocks corresponding to motion of said object in said sequence of images; and

(c) storing said first set of features and said sequence of grid blocks.

Tsuchikawa discloses steps (a), (b) and (c) in Figures 3-4 and column 5, lines 5-52 in the specification. Figure 4 shows:

FIG. 4


100
CAMERA
IMAGE SEQUENCE
001
t
to
101
102
120
110
a1
a2
a3
a4
a5
(x,y)
IMAGE FEATURE PARAMETER VALUE TEMPORAL CHANGE STORAGE MEANS
010
400
SUBTRACTION MEANS
BINARIZATION MEANS
510
120
MOVING OBJECT EXTRACTION MEANS
500
520
PEAK
VARIANCE σ
213
FREQUENCY
INTENSITY
INTENSITY CHANGE STATISTICAL PROCESSING MEANS (DURING to AT a1)
214
INTENSITY CHANGE STATISTICAL PROCESSING MEANS (DURING to AT a2)
211
221
212
222
σ < σ0?
NO
YES
UPDATE
NO UPDATE
VALUE UPDATE MEANS
231
BACKGROUND IMAGE SUB-REGION UPDATE MEANS
200
232
310
300
BACKGROUND IMAGE REGION RECONSTRUCTION MEANS

As to step (a) of claim 1, Tsuchikawa using camera 001 to extract a first set of features from a moving object detected in a sequence of images. In other words, as the objects move in front of camera 001, the camera detects the sequence of images (see frames 101, 102 in time, as shown in Figure 4). The camera 001 sends the sequence of images to storage means 100. The storage means 100 stores the extracted first set of features (i.e, image feature parameter values).

As to step (b), Tsuchikawa uses a plurality of frame memories 101, 102, etc. for storing image feature parameter values for the sequentially entered input images. As shown in figure 4, the frame memories comprise a 4x4 grid block. Further, each frame memory in the image feature parameter value temporal change storage means 100 stores the image feature parameter values for each input image containing a background region 110 and a moving object region 120 which is divided into a plurality of sub-regions. The intensity at each pixel is used as an exemplary image feature parameter at each sub-regions. Tsuchikawa discloses storing of input images with features of the moving object and the updated background, which corresponds to a sequence of grid blocks or a motion path of the moving object (see grid blocks in Figure 4, a1, a2, a3, a4, and a5).

As to step (c), the frame memories 101 and 102 correspond to the storing of the first set of features and the sequence of grid blocks.

Appellant also argues Tsuchikawa does not suggest the storing of a feature set plus a motion path (not a sequence of images) for a detected object.

In response, the examiner notes claim 1 does not recite "the storing of a feature set plus a motion path for a detected object. These elements are not in the claim. The examiner cannot make assumption of which words could have been in the claim.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kanji Patel

Patent Examiner

KANJIBHAI PATEL
PRIMARY EXAMINER

Conferees:

Bella, Matthew

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Mehta, Bhavesh

BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600